

## Visible Blind SiC Array with Low Noise Readout

Completed Technology Project (2012 - 2013)



## Project Introduction

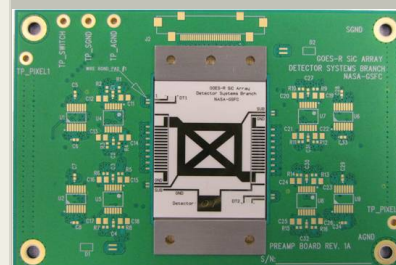
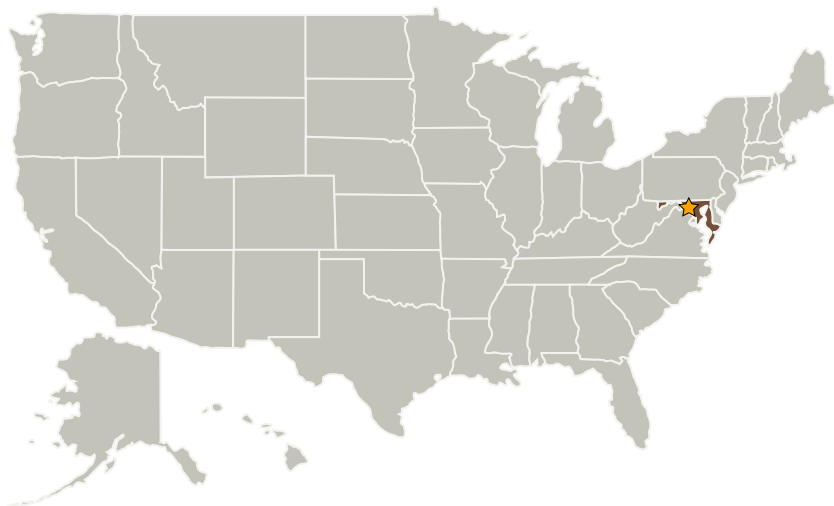
We have designed and fabricated a Focal Plane Array (FPA) and low noise preamp board. We wish to complete the development of the SiC array test assembly and perform full radiometric characterization including Quantum Efficiency (QE) and signal-to-noise performance in the spectral region VUV to 385 nm.

To date, we have (i) designed and fabricated both common cathode and common anode SiC detector arrays; (ii) designed and fabricated the detector packaging (FPA), and (iii) simulated, designed and fabricated a low-noise, compact pre-amplifier board. The FPA is mounted in the middle of the preamp board, to form the SiC array test assembly. The project will integrate the SiC array assembly and optimize it for noise performance. We will then construct a UV test setup capable of going from VUV to 385 nm spectral wavelength region, to characterize the SiC array. The characterization will include dark current, noise, relative response and QE. The data analysis results will be the final end product.

## Anticipated Benefits

N/A

## Primary U.S. Work Locations and Key Partners



Visible Blind 1X16 SiC Array  
with Low Noise Readout

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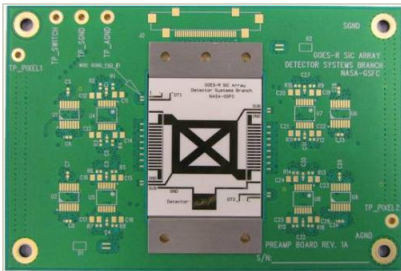


Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

## Primary U.S. Work Locations

Maryland

## Images

**11812-1360337893414.jpg**

Visible Blind 1X16 SiC Array with Low Noise Readout

(https://techport.nasa.gov/image/1634)

## Links

NTR 1

(no url provided)

## Project Website:

<http://sciences.gsfc.nasa.gov/sed/>

## Organizational Responsibility

## Responsible Mission Directorate:

Mission Support Directorate (MSD)

## Lead Center / Facility:

Goddard Space Flight Center (GSFC)

## Responsible Program:

Center Independent Research &amp; Development: GSFC IRAD

## Project Management

## Program Manager:

Peter M Hughes

## Project Manager:

Terence A Doiron

## Principal Investigator:

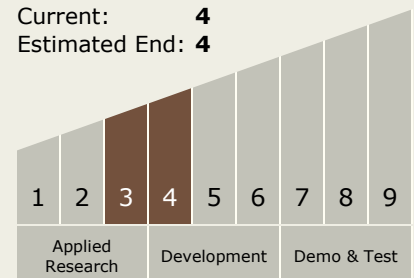
Duncan M Kahle

## Technology Maturity (TRL)

Start: 3

Current: 4

Estimated End: 4



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### Technology Areas

**Primary:**

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
    - └ TX08.1.1 Detectors and Focal Planes